

11. (New) A system according to claim 10 wherein said attaching element comprises one or more rivets.

12. (New) A system according to claim 7 wherein said lower anchor comprises at least one block secured to said backing plate by an attaching element that is placed primarily in shear by application of braking forces to said anchor.

13. (New) A system according to claim 12 wherein said attaching element comprises one or more rivets.

REMARKS

Reconsideration of the rejections of the claims as unpatentable over the Chouings and Yamamoto patents is respectfully requested.

The claims have been amended to highlight the feature of the invention wherein the levers are arranged for radial motion and impart that motion to the brake shoes. None of the references relied upon in the rejection teach or suggest such structure.

The Chouings patent does not show or suggest the type of brake recited in the claims of this application. The Chouings system is designed primarily for a trailer and, specifically, to reduce the braking force during reverse motion. Thus, in figure 4, Chouings shows a lever 185 that is mounted to the backing plate for pivotal motion about the pivot point 186 such that the braking force applied during reverse motion is less than that applied during forward motion. The purpose of the lever is, therefore, very different from that of the levers in the system of the instant invention, and it is mounted for different motion.

The levers of the recited invention are mounted for radial motion, whereas the motion of the lever 185 of Chouings is mounted for circumferential motion about the pivot point 186. The two motions are very different and the intended purposes are very different.

The reference in the office action to the compound shoes disclosed in column 1 of Chouings is noted but believed not to be relevant to the instant invention. That disclosure relates to a type of compound shoe that causes the braking portion to move inward during braking in the reverse direction. That disclosure is prior art to the Chouings invention and in direct conflict with the structure of the Chouings invention shown in figure 4 of the patent. Thus, the compound shoes disclosed by Chouings in column 1 are not relevant to anything in this case because they have nothing to do with the levers recited in the claims of the instant application and, furthermore, could not even be used with the lever disclosed in figure 4 of Chouings.

The Yamamoto reference does not relate to a system having levers as recited in the claims of the instant application. The office action refers to actuating levers 52 and 62, but these are not levers. They are disclosed to be web portions that are integral parts of the shoe assemblies 16 and 18. Thus, Yamamoto does not anticipate claims 5 and 6.

Furthermore, the invention as claimed would not have been obvious to one of ordinary skill in the art in view of Chouings and Yamamoto because there is no suggestion at all to combine the teachings of these references as suggested by the office action and because such combination would not result in the invention as claimed.

First, the actuating levers of the Chouings system are arranged for circumferential, not radial, motion and are not for the purpose of urging the brake shoes against the brake drum in the same way as in the invention. Instead the levers of the Chouings system merely determine the relative locations of the lower ends of the webs of the shoes to reduce the braking force in the reverse direction. Because the single lever in the Chouings system does not directly actuate the brake shoes, it would not have been obvious to modify that system to include the hand-brake

system of Yamamoto. There is simply no correspondence between the two systems and nothing to suggest the modifications proposed by the office action.

Second, because the "lever" of Chouings is so different from the claimed levers, the combination suggested by the office action would not result in the claimed invention. In fact, it is hard to imagine the actual structure proposed in the office action operating.

Accordingly, it is submitted that this application is in condition for allowance, and an early indication thereof is respectfully requested. The examiner is invited to contact the undersigned if any matter remains outstanding.

All necessary extensions of time are requested. Please charge any necessary fees and credit any excess to deposit account 50-1088.

Respectfully Submitted,
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GROUP 3600

In re Application of:

BARBOSA, M.

Serial No.: 09/986,956

Filed: November 13, 2001

For: DUAL LEADING-SHOE DRUM
BRAKE

Art Unit: 3683

Examiner: NGUYEN, Xuan Lan T.

MARKED UP CLAIMS

1. (Amended) A dual leading-shoe brake system comprising a backing plate, first and second actuating levers arranged for radial movement and first and second brake shoes, each brake shoe engaging a respective one of said actuating levers such that said actuating levers urge said brake shoes radially outward during braking operation, a first anchor fixed to said backing plate and engaging [lower] first ends of said actuating levers and adapted to engage a [lower] first end of a said brake shoe during braking, a[n upper] second anchor adapted to engage a[n upper] second end of a said [a] brake shoe during braking, and an activating element engaging [upper] second ends of said levers and adapted to urge said levers apart during braking.
2. A brake system according to claim 1 further comprising an adjuster of variable length engaged between said actuating levers.
3. A brake system according to claim 2 further comprising a parking brake lever pivotally attached to one of said actuating levers and engaging said adjuster such that pivotal motion of said parking brake lever applies a separating force to said adjuster and to said one of said actuating levers.

4. A brake system according to claim 1 further comprising first and second pins, each of said pins connecting a respective one of said first and second levers to a respective one of said first and second brake shoes.

5. (Amended) A drum brake system comprising first and second actuating levers arranged for radial movement to actuate [for actuating] respective brake shoes, a link extending between respective ends of said levers, and a parking brake lever pivotally attached to one of said actuating levers at a pivotal connection and also engaging one end of said link such that pivotal movement of said parking brake lever applies a force to said one of said actuating levers through said pivot connection and to the other of said actuating levers through said link.

6. A brake system according to claim 5 wherein the length of said link is adjustable.

7. (Amended) A dual leading-shoe drum brake system comprising:

a backing plate;

an upper anchor secured to an upper part of said backing plate;

a lower anchor secured to a lower part of said backing plate;

first and second substantially identical actuating levers arranged symmetrically with respect to a line between said upper and lower anchors for radial movement and engaging said lower anchor;

first and second substantially identical brake shoes, each of said brake shoes being located adjacent a respective one of said actuating levers and adapted to be activated by said lever; wherein said brake shoes selectively engage said upper and lower anchors to transfer braking forces during braking; and

an actuating cylinder engaging upper ends of said actuating levers to urge said levers apart and initiate said braking.

8. A system according to claim 7 further comprising an adjustment link extending between said first and second actuating levers.

9. A system according to claim 8 further comprising a parking brake lever pivotally attached to one of said actuating levers and engaging said adjustment link.

9. A system according to claim 7 wherein each of said brake shoes is connected to said respective one of said actuating levers.

NEW CLAIMS

10. (New) A system according to claim 1 wherein said first anchor comprises at least one block secured to said backing plate by an attaching element that is placed primarily in shear by application of braking forces to said anchor.

11. (New) A system according to claim 10 wherein said attaching element comprises one or more rivets.

12. (New) A system according to claim 7 wherein said lower anchor comprises at least one block secured to said backing plate by an attaching element that is placed primarily in shear by application of braking forces to said anchor.

13. (New) A system according to claim 12 wherein said attaching element comprises one or more rivets.